PETROV, S.F.

USSR/Chemistry - Dyes

Card 1/1 Pub. 151 - 38/38

Authors : Bogdanov, S. V., and Petrov, S. F.

Title : Investigation of 1,2-naphtho-(3',4')-furazan. Part 2.- Nitration and chlorination of 1,2-naphtho-(3',4')-furazane

Periodical : Zhur. ob. khim. 24/2, 385-390, Feb 1954

Abstract : The derivation of mononitro- and dinitro-derivatives during the nitration of 1,2-naphtho-(3',4')-furazan in sulfuric acid and consequent chilling with a 40%-nitric acid surplus, is described. Mononitration of the furazan leads to the formation of two nitro-compounds (5-nitro- and 7-nitro-1,2-naphtho-(3',4')-furazanes with the nitro-group in 5 and 8 positions respectively. Direct chlorination of furazan in the presence of Fe results in the formation of 3-chloro-1,2-naphtho-(3',4')-furazan. It was established that nitronaphthofurazan converts into aminonaphthofurazan during the reduction process. Seven references: 1-USA; 4-USSR and 2-German (1884-1951).

Institution : The K. E. Voroshilov Scientific Research Institute of Organic Semi-Products and Dyes

Submitted : October 5, 1953

PETROV, S.F.

USSR

Naphtho[1,2]furazan series. II. Nitration and chlorination of naphtho[1,2]furazan. S. V. Bogdanov and S. F. Petrov. *J. Gen. Chem. U.S.S.R.* 24, 307-401(1954)(Engl. translation).—See *C.A.* 49, 4635h. H. L. H.

PETROV, S. F.

USSR/Chemistry - Dyes

Card 1/1 : Pub. 151 - 28/37

Authors : Bogdanov, S. V., and Petrov, S. F.

Title : Investigation of 1,2-naphtho-(3',4')-furazan. Part 3.-Bisulfite compound of 1,2-naphtho-(3',4')-furazan and 6-nitro-1,2-naphtho-(3',4')-furazan

Periodical : Zhur. ob. khim. 24/3, 532-535, Mar 1954

Abstract : The formation of a bisulfite 1,2-naphtho-(3',4')-furazan compound during the heating of a 1,2-naphtho-quinonedioxime bisulfite solution with a small sodium surplus is described. Nitration of the bisulfite-furazan compound results in the conversion of the latter into a bisulfite compound of 6-nitro-1,2-naphtho-(3',4')-furazan. The products obtained from 6-nitro-1,2-naphtho-(3',4')-furazan are listed. Three USSR references (1932-1954).

Institution : The K. E. Voroshilov Scientific Research Institute of Organic Semi Products and Dyes

Submitted : October 5, 1953

PETROV, S. F.

USSR.

Naphtho(1,2,3',4')furazan series. III. Bisulfite compound of 1,2-naphtho(3',4')furazan and 6-nitro-1,2-naphtho(3',4')furazan. S. V. Bogdanov and S. F. Petrov. Gen. Chem. U.S.S.R. 24, 645-7(1954)(Engl. translation). See C.A. 49, 6239a. H. L. H.

CHLENOVA, R.S.; GEL'FER, TS.M.; PETROV, S.F.

Some derivatives of the phenoxazinone series. Zhur. ob. khim. 28 no.11:2977-2981 N '58. (MIRA 12:1)

1.Nauchno-issledovagel'skiy institut organicheskikh poluprovodnikov i krasiteley imeni K.Ye. Voroshilova.
(Phenoxazinone)

AUTHOR: [illegible], R. S., [illegible], Ts.M., [illegible] SOV/[illegible]
[illegible], S. F.

TITLE: On Some Derivatives of the "Phenoxazone" Series (O [illegible] prizvodnykh ryada fenoksazona)

PERIODICAL: [illegible] Khimii, [illegible], Vol 28, No 11, pp 29[illegible] - 2961 (USSR)

ABSTRACT: Chloro aniline reacts with the substituted o-nitro-phenolate to the derivatives of "phenoxazone" (I). This reaction (1) takes place easily in the case where there are electrophilic substituents in the molecule of aminophenol in the position 4 or 5, [illegible] nitro group or a halogen (Scheme 1). The structures of the nitro, amino, and acylamino "phenoxazones" have been little dealt with in publications. The synthesis of some "phenoxazone" derivatives was carried out by the authors and described in this paper. The [illegible] compound (II) but [illegible] (III) [illegible] differ in the way of the condensation of 5-nitro-2-amino-phenol with chloro aniline in aqueous suspension [illegible]

Card 1/3

On Some Derivatives of the "[illegible]zole" Series S [illegible]

[illegible] of [illegible] the [illegible]. This modification [illegible] have [illegible] proved to be useful for the [illegible] preparation of the product (II). This "ox[illegible]" has a mobile [illegible] atom in the position 3 so that on the action of the molecule 5-nitro-2-aminophenol on 1 mol [illegible] alcohol solution [illegible] oxazine (III) is easily formed (81%). The synthesis of the compound (III) by the reaction [illegible] with considerable difficulties and takes place by way of [illegible] stage, with the compounds formed [illegible] capable of separation, namely the oxazines (V) and (VI), according to the conditions of the reaction. The [illegible] of the [illegible] (III) from the nitro compound takes place under the [illegible] introduction of [illegible] according to the scheme (2). The absorption spectra of the [illegible] were [illegible]. Their [illegible] are given in Fig. 2. The [illegible]

Card 2/3

On Some Derivatives of the "Phenoxazone" Series SOV/79-28-[illegible]

ASSOCIATION: Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley imeni K.Ye.Voroshilova (Scientific Research Institute of Organic Semiproducts and Dyes imeni K.Ye. Voroshilov)

SUBMITTED: September 2o, 1957

Card 3/3

PETROV, S. G.

"The fowl population near Shabalino." Dept. of Genetics and Selection, All-Union Scientific Research Institute of Poultry, All-Union Academy of Agricultural Sciences i/n Lenin, Ptitsegrad, Moscow Oblast. (p. 57) by Petrov, S. G.

SO: Biological Journal (Biologicheskii Zhurnal) Vol. V, 1936, No. 1

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

BC

Parallel variation in plumage colours of various breeds of domestic fowl. S. G. Petrov (*Compt. rend. Acad. Sci. U.R.S.S.*, 1940, [illegible], 487—490).—Colour variations are tabulated for a total of 48 breeds and 179 varieties of normal fowl and bantams. Identical breeds and varieties are found in normal fowl and bantams and a no. of plumage colour types recur in the varieties of the majority of breeds. J. D. B.

Inst. Genetics, AS USSR

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

1. PETROV, S. P., PROF., MAKOGON, L. A., MOCHUNOV KAYA, T. K.

2. USSR (600)

4. Eggs-Production

7. Increasing hens' egg laying in winter. Ptitsevodstvo no. 3, 19[illegible].

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

1. PETROV, S. G. Prof.

2. USSR (600)

4. Poultry

7. Negative influence of heat on productivity of chickens. Ptitsevdstvo No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

PETROV, S.G.

"Changes of the morphological structure of farm animals under the effect of maintenance and use" by [dotsent] P.D.Rud'ko. Reviewed by S.G.Petrov. Zhivotnovodstvo 23 no.2:90-91 F '61. (MIRA 15:11)
(Horses--Anatomy) (Rud'ko, P.D.)

AVROROV, A.A., prof.; PETROV, S.G., prof.

Intercollege conference on pathological anatomy of farm animals.
Veterinariia 37 no.10:91-93 O '60. (MIRA 15:4)
(Veterinary pathology--Congresses)

PETROV, S.G.

Gorbilok series in the Yenisey Ridge. Mat.VSEGEI no.32:37-40 '60.
(MIRA 14:3)
(Yenizey Ridge—Geology, Stratigraphic)

LEBEDEV, D.D., prof.; PETROV, S.I., dots.; SOPELKINA, I.M.

Pathogenesis of the "infectious heart" and rheumocarditis [with summary in English]. Pediatriia 37 no.1:32-37 Ja '59. (MIRA 12:1)

(TONSILITIS, exper.
ECG data & pathogen. of rheum. heart dis. in puppies (Rus))
(RHEUMATIC HEART DISEASE, exper.
pathogen. after induction of tonsillitis in puppies (Rus))
(ELECTROCARDIOGRAPHT, exper.
eff. of tonsillitis in puppies (Rus))

GUBAR', A.V., dots.; KOSITSKIY, G.I.; KULIKOVA, V.S.; MAL'TSEVA, T.A.; MARKOVA, A.A.; MILYUTINA, L.A.; ORESHUK, F.A.; PETROV, S.I.; CHESNOKOVA, S.A., assistent; ASRATYAN, E.A., prof., red.; OKHNYANSKAYA, L.G., red.; BUKOVSKAYA, N.A., tekhn. red.

[Handbook of practical exercises for a course of normal physiology] Rukovodstvo k prakticheskim zaniatiam po kursu normal'noi fiziologii. Pod red. E.A.Asratiana i A.V.Gubar'ia. Moskva, Medgiz, 1963. 303 p. (MIRA 16:7)

1. Chlen-korrespondent AN SSSR (for Asratyan).
(PHYSIOLOGY--LABORATORY MANUALS)

GUBAR', A.V., dots.; KOSITSKIY, G.I.; KULIKOVA, V.S.; MAL'TSEVA, T.A.; MARKOVA, A.A.; MILYUTINA, L.A.; ORESHUK, F.A.; PETROV, S.I.; CHESNOKOVA, S.A.; ASRATYAN, E.A., prof., red.; OKHNYANSKAYA, L.G., red.; BUKOVSKAYA, N.A., tekhn. red.

[Manual on practical exercises for a course in normal physiology] Rukovodstvo k prakticheskim zaniatiiam po kursu normal'noi fiziologii. [By] A.V.Gubar' i dr. Moskva, Medgiz, 1963. 303 p. (MIRA 17:3)

1. Chlen-korrespondent AN SSSR(for Asratyan).

PETROV, S.I., inzhener; GLADKOVSKIY, T.K., inzhener.

Hardening of concrete and solution in freezing weather without heating. Stroi.prom. vol. 31 no.9:37-40 S '53. (MLRA 6:9)

1. Trest Chelyabmetallurgstroy. (Concrete--Cold weather conditions)

PETROV, S. I.

Chemical Abstracts
May 25, 1954
Cement, Concrete and
other Building Materials

(3)

Hardening of concrete and cement in the cold without heating. S. I. Petrov and T. K. Gladkovskii (Metallurgic Construction Trust, Chelyabinsk). *Stroitel Prom.* 31, No. 9, 37-9(1953).—A good antifreeze for concrete is 5% NaCl (by wt. of water). Temp. of concrete at time of pouring should be not less than +10° and outside temp. not lower than −25°. Open surfaces should be covered. Salt content of freshly poured concrete is checked by elec. resistance measurements. Specimens without antifreeze are used for control tests. B. Z. Kanich.

PETROV, S.I.

Using reinforced concrete in industrialized building of the Chelyabinsk Trust for Construction of Metallurgical Plants. Prom. stroi. 36 no.11:2-5 N '58. (MIRA 12:1)

1.Chelyabmetallurgstroy.
(Chelyabinsk--Metallurgical plants)
(Precast concrete construction)

PETROV, S.I.

Industrialization of industrial construction. Prom. stroi. 37 no.6:26-30 Je '59. (MIRA 12:8)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR, upravlyayushchiy trestom Chelyabmetallurgstroy.
(Chelyabinsk--Metallurgical plants--Design and construction)
(Chelyabinsk--Construction industry)

The effect of age differences on gastric excretion A A Titaev and S I Petrov with G V Slovikovskaya and N P Chernyavskaya *Bull bio med expt U R S S* 3, 406 (in German) 1937 The excretion of Neutral Red (I) and nitrogenous substances takes place during the secretion period of the gastric glands At $p_H > 0$ no I is excreted and no residual N is found in the gastric juice Reducing substances are found at all times and the relation between their excretion and gastric secretion is not clear The time of I excretion is practically the same in young and old dogs, but under optimal conditions it is 1 2 min less in young dogs The av contents of residual N and sugar in the gastric juice of young dogs are slightly less than in that of old dogs S A K

PETROV, St.

A new contribution to the knowledge of the cryptogamic flora of Bulgaria. Izv inst bot BAN 11 167-187 '63.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

G

a

292-4c. **Deformation of Sheets During Oxy-Acetylene Cutting.** (In Russian.) S. Petrov. *Avtogennoe Delo* (Welding), v. 21, June 1950, p. 15-20.

Mechanism of edge deformation and methods of preventing or minimizing it. (SF)

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

PETROV, Sl.

Moss flora of Bulgaria. Izv. inst. bot. BAN 10:131-144 '62.

B

Deformation of Sheets During Oxyacetylene Cutting.
(In Russian) S. I. Petrov. Avtogennoe Delo Weld
ing) v. 21 June 1950, p. 15-20

Mechanism of edge deformation was thoroughly in
vestigated. On the basis of the mechanism of defor
mation described methods of preventing or of mini
mizing it are presented

METALLURGICAL LITERATURE CLASSIFICATION

AYVAZOV, Boris Viktorovich; PETROV, Sergey Mikhaylovich; SHAYKULLINA, Venera Rezepovna; YAKRYNTSEVA, Vera Grigor'yevna; YENISHERLOVA, O.M., ved. red.

[Physicochemical constants of organic sulfur compounds] Fiziko-khimicheskie konstanty seraorganicheskikh soedineniy. Pod red. B.V.Aivazova. Moskva, Izd-vo "Khimiia," 1964. 279 p. (MIRA 17:8)

MINENKO, V.I., kand.khimicheskikh nauk; ZLUNITSYN, S.A., kand.fiziko-matematicheskikh nauk; PETROV, S.M., kand.khimicheskikh nauk; ROMAS'KO, S.D., kand.geolog-mineralogicheskikh nauk

Concerning the effect of magnetic fields on the physical properties of water. Prom.energ. 17 no.5:24-26 My '62. (MIRA 15:5)
(Feed-water purification)

MINENKO, V.I.; PETROV, S.M.; IVANOVA, N.S.

Behavior of the platinum electrode in electrochemical studies of molten oxide mixtures. Zhur.fiz.khim. 36 no.10:2300-2302 O '62. (MIRA 17:4)

1. Khar'kovskiy inzhenerno-ekonomicheskiy institut, laboratoriya fizicheskoy khimii.

80836

S/072/60/000/06/10/024
B015/B008

15.2120

AUTHORS: Minenko, V. I., Petrov, S. M., Ivanova, N. S.

TITLE: On the Nature of Molten Glasses of the System Lead Monoxide-Silicon Dioxide

PERIODICAL: Steklo i keramika, 1960, No. 6, pp. 34 - 37

TEXT: The thorough investigation of the melts of the system $PbO-SiO_2$ in the wide range of concentrations and temperatures was the aim of the paper under review. The method of the electromotive force was used as the essential experimental investigation method. Measurement of the electromotive force was conducted by means of the high-resistance potentiometers of the Raps system and type ППТВ-1 (PPTV-1) respectively. The typical dependence of the electromotive force on the composition of the melt is shown in Fig. 1. The dependences of the density and molecular refraction of the glasses are mentioned in Figs. 2 and 3. The curves were represented in accordance with data by L. I. Demkina and P. V. Bukarinova (Ref. 2). The data obtained by the authors agree with the conceptions of

Card 1/2

80836

On the Nature of Molten Glasses of the System Lead Monoxide-Silicon Dioxide

S/072/60/000/06/10/024
B015/B008

O. K. Botvinkin (Ref. 3). The authors finally stress that their data make it possible to clarify the nature of the dependence of the glass properties of the system $PbO-SiO_2$ on the composition of the glasses. The short-range order and the grouping of the ions in the melt are also maintained in the solidified glass. There are 3 figures and 2 Soviet references.

Card 2/2

MINENKO, V.I.; PETROV, S.M.; IVANOV, N.S.

Behavior of a platinum electrode in silicate melts. Zhur. fiz. khim. 35 no.7:1534-1537 Jl '61. (MIRA 14:7)

1. Khar'kovskiy inzhenerno-ekonomicheskiy institut.
(Electrodes, Platinum) (Silicates)

MINENKO, V.I., kand.khim.nauk; PETROV, S.M.

Characteristics of practical application of magnetic water treatment. Bezop.truda v prom. 6 no.6:29-31 Je '62. (MIRA 15:11)

1. Khar'kovskiy inzhenerno-ekonomicheskiy institut.
(Feed-water purification)

MINENKO, V.I.; PETROV, S.M.; IVANOVA, N.S.

Properties of the melts of the PbO - SiO_2 system as studied by the electromotive force method at 1200°C. Izv.vys.ucheb.zav.; khim.i khim.tekh. 4 no.1:3-6 '61. (MIRA 14:6)

1. Khar'kovskiy inzhenerno-ekonomicheskiy institut, kafedra obshchey khimii.

(Lead oxide) (Silica)

MINENKO, V.I.; PETROV, S.M.; IVANOVA, N.S.

Electromotive forces in the melts of the system PbO - SiO_2 at 1100°. Zhur. VKHO 5 no. 2:230-231 '60. (MIRA 14:2)

1. Khar'kovskiy inzhenerno-ekonomicheskiy institut.
(Lead oxide) (Silica)

PETROV, S.M., ~~red.~~; PROKHOROV, V.I., red.; RUMYANTSEV, A.F., red.; SHITAREV, G.I., red.; SHITOV, N.F., red.; ZAKLADNAYA, V.M., red.; NAUMOV, K.M., tekhn. red.

[Toward the victory of communist labor; work practice of the party, Communist Youth League and trade-union organizations with communist labor brigades] K pobede kommunisticheskogo truda; ob opyte raboty partiinykh komsomol'skikh i profsoiuznykh organizatsii s brigadami kommunisticheskogo truda. Moskva, Izd-vo VPSh i AON pri TsK KPSS, 1961. 271 p. (MIRA 14:8)

1. Kommunisticheskaya partiya Sovetskogo Soyuza. Vysshaya partiynaya shkola.

(Socialist competition)

S/073/60/026/001/007/0[illegible]
B023/B067

AUTHORS: Minenko, V. I., Petrov, S. M., and Kirilenko, L. F.

TITLE: Study of the System PbO - SiO_2 by the Method of Electromotive Forces

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 1, pp. 195-197

TEXT: The authors studied the PbO - SiO_2 system by the emf method at 940°C in a concentration range where this system is homogeneous. Concentration chains $Pt/PbO(c_1) + SiO_2/Al_2O_3/SiO_2 + PbO(c_2)/Pt$ were studied. A eutectic with the following composition served as standard melt: 29.6 wt% SiO_2 and 70.4 wt% PbO. The data obtained proved the dependence of emf on the composition. In the melts of the PbO - SiO_2 system corresponding to the formulas $4PbO \cdot SiO_2$, $2PbO \cdot SiO_2$, $PbO \cdot SiO_2$, and $2PbO \cdot 3SiO_2$, the authors observed sudden changes of emf. This indicates that four types of

Card 1/3

Study of the System PbO - SiO_2 by the Method of Electromotive Forces

S/073/60/026/002/00[illegible]/
B023/B00[illegible]

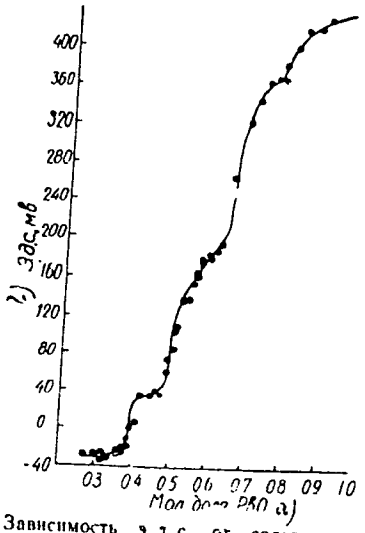
ionic complexes are present in the melts. On the basis of the values obtained for sudden changes of emf, the authors note that the compounds corresponding to the formulas $2PbO \cdot SiO_2$, $PbO \cdot SiO_2$, and $2PbO \cdot 3SiO_2$ are sufficiently stable, whereas the stability of the complex corresponding to the formula $4PbO \cdot SiO_2$ was low under the experimental conditions. A figure illustrates the dependence of emf on the PbO content in the system PbO - SiO_2. Legend to the figure: a) molar fraction of PbO; b) emf expressed in mv. There are 1 figure and 14 references: 11 Soviet and 3 US.

ASSOCIATION: Kharkovskiy inzhenerno-ekonomicheskiy institut, laboratoriya fizicheskoy khimii (Kharkov Institute of Management Engineers, Laboratory of Physical Chemistry)

SUBMITTED: December 19, 1959

Card 2/3

S/073/60/024/003/00[illegible]
B023/B00[illegible]



Зависимость э.д.с. от содержания PbO в системе PbO — SiO_2.

Card 3/3

MINENKO, V.I.; PETROV, S.E.; IVANOVA, N.S.

Use of reversible oxygen electrodes in oxygen-containing melts. Izv.vys.ucheb.zav.; chern.met. no.7:10-13 '60. (MIRA 13:8)

1. Khar'kovskiy inzhenerno-ekonomicheskiy institut.
(Electolytes--Testing)
(Electrodes, Platinum)
(Oxygen)

MINENKO, V.I.; PETROV, S.M.; KIRILENKO, L.F.

Emf study of the system PbO - SiO_2. Ukr. khim. zhur. 26 no.2:195-197 '60. (MIRA 13:9)

1. Khar'kovskiy inzhenerno-ekonomicheskiy institut, laboratoriya fizicheskoy khimii.
(Lead oxide) (Silica)

MINENKO, V.I., PETROV, S.M., IVANOVA, N.S.

Characteristics of molten lead oxide-silica glasses. Stek. i ker. 17 no.6:34-37 Je '60. (MIRA 13:6)
(Glass)

KATORGIN, Ivan Ivanovich, kand.istor.nauk; PETROV, S.M., prof., red.; KOSUL'NIKOV, A.P., kand.istor.nauk, red.; SHITOV, N.F., kand. istor.nauk, red.; RATNER, V.I., red.; NAUMOV, K.M., tekhn.red.

[Postwar struggle of the Communist Party for the reconstruction and development of the national economy, 1945-1953. Theme 16.] Bor'ba Kommunisticheskoi partii za vosstanovlenie i razvitie narodnogo khoziaistva v poslevoennye gody, 1945-1953 gg.; tema XVI. Moskva, Izd-vo VPSh i AON pri TsK KPSS, 1959. 90 p. (MIRA 13:6)

(Communist Party of the Soviet Union) (Reconstruction)

PETROV, S.M. (Gaysin).

Problems on the evolute of a cone. Mat. v shkole no.2:57-59 Mr-Ap '58. (MIRA 11:2)

(Geometry--Problems, exercises, etc.)

PETROV, Sergey Mikhaylovich; KOVRIGIN, Mikhail Grigor'yevich; SHATILOV, A.I., inzh., retsenzent; MOTORNYY, V.I., kand. tekhn. nauk, red.; MATVEYEVA, Ye.N., tekhn. red.

[Small capacity Ch $\frac{8.5}{11}$ diesels] Dizeli Ch $\frac{8.5}{11}$ malomoshchnye. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 269 p. (Diesel engines) (MIRA 11:8)

PETROV, S.M. (g. Gaysin Vinnitskoy oblasti).

Modeling round bodies from gypsum. Mat. v shkole no.3:53-57 My-Je '57. (MLRA 10:6)

(Geometry--Study and teaching)

PETROV, S.M., inzhener; IVANOV, A.I., inzhener.

Universal vibrograph for measuring the speed of closing and opening circuit breakers. Energetik 4 no.3:20-22 Mr '56. (MLRA 9:6)
(Electric instruments)

PETROV, S.M.

Untiring investigator. Zdorov'e 3 no.3:7-8 Mr '57 (MLRA 10:4)
(KRMOL'EVA, ZINAIDA VISSARIONOVNA, 1898)

PETROV, Sergey Mikhaylovich; KABLUCHKO, V.V., redaktor; NAUMOV, K.M. tekhnicheskiy redaktor.

[Worker's movement and the spread of Marxism in Russia (1883-1894)]Rabochee dvizhenie i rasprostranenie marksizma v Rossii (1883-1894gg.) Moskva, Vysshaia partiinaia shkola pri TsK KPSS, 1957. 67 p. (MLRA 10:6)
(Russia--Labor and laboring classes)

PETROV S.M.

621.315.052.63 : 621.395.43 : 621.317.083.7

2700. Simple communication and telemetering channels for lines with low short-circuit currents to earth. S. M. PETROV AND V. M. PETROV. *Elektr. Stanitsii*, 1953, No. 12, 40-3. *In Russian.*

Instead of using the h.v. lines themselves for communication purposes, requiring expensive condensers and filter elements, the authors suggest the use of the isolated or compensated neutral line and earth return. The system in question employs 3-ph. transformers for insulation monitoring, to which a special winding for communication purposes can be added. In other systems, a winding for monitoring possible short-circuits to earth can be used for the same purpose. The suggested circuit is checked for its resistance and phase response in the range of 200-15 000 c/s and found to be satisfactory. For telemetering requirements, simple filters are described, which suppress the 50 c/s fundamental and also interference pulses; for telephony, a simple two-valve audio-amplifier is employed, with two relays, ringing bell, microphone and earpiece, of which the full circuit is reproduced and described in detail.

A. LANDMAN

PETROV, S. M.

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621.315.052.63 : 621.395.44 : 621.317.031.7

2700. Simple communication and telemetering channels for lines with low short-circuit currents to earth. S. M. PETROV AND V. M. PETROV. *Elektr. Stanitsii* 1955, No. 12, 40–3. *In Russian.*

Instead of using the h.v. lines themselves for communication purposes, requiring expensive condensers and filter elements, the authors suggest the use of the isolated or compensated neutral line and earth return. The system in question employs 3-ph. transformers for insulation monitoring, to which a special winding for communication purposes can be added. In other systems, a winding for monitoring possible short-circuits to earth can be used for the same purpose. The suggested circuit is checked for its resistance and phase response in the range of 200–15 000 c/s and found to be satisfactory. For telemetering requirements, simple filters are described, which suppress the 50 c/s fundamental and also interference pulses. For telephony, a simple two-valve audio-amplifier is employed, with two relays, ringing bell, microphone and earpiece, of which the full circuit is reproduced and described in detail.

A. LANDMAN

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240510014-3"

PETROV, S.M., inzhener; PETROV, V.M., inzhener.

Simple channels of communication and telemechanics for networks with a low short-circuit to the ground. Elek. sta. 24 no.12:40-43 D '53. (MLRA 6:12)

(Telecommunication)

S/076/61/035/007/[illegible]
B127/B206

AUTHORS: Minenko, V. I., Petrov, S. M., and Ivanova, N. S.

TITLE: The behavior of a platinum electrode in silicate melts

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 7, 1961, 1534-1537

TEXT: The purpose of this study was to design an electrode for investigating melts containing oxides of various metals, since the errors of previous methods were 10-15%. The platinum electrode was tested in concentration cells of the type $Pt, O_2(P_{O_2})$ (melt I), $|Al_2O_3|$ (melt II) $O_2(P'_{O_2})$, Pt with the electrolytes $PbO-SiO_2$, $Na_2O-CaO-SiO_2$ and $MeO-PbO-SiO_2$. Me denotes oxides of the alkaline earth group. A reaction of the following type was assumed in each case: $2\ O^{2-} = O_2 + 4e$. The dependence of the potential of the platinum electrode on the activity of the oxygen ions may be expressed by the formula: $\pi = A-B \log a_{O^{2-}}$. The quantity π in the relation

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$B=2.303\ RT/nF$ was about 4 in all cases. The emf of the cells $Pt, O_2(p_{O_2} = 0.21\ at)|PbO\ (70.4\ wt\%) + SiO_2(29.6\ wt\%)|Al_2O_3|SiO_2\ (100-x\ wt\%) + PbO\ (x\ wt\%)|O_2(p'_{O_2} = 0.21\ at)$, pt as a function of the logarithm of the molar content of PbO ($1+\log N_{PbO}$) in the system 4 $PbO.SiO_2$-PbO at 1450°C is given by a straight line. At 1000°C the emf of the cells is also a linear function of ($1+\log p_{O_2}$). By increasing the partial pressure p'_{O_2} the potential becomes more positive and $\pi=A'+B'\log p_{O_2}$ holds, where $A'=A-B\log a_{O^{2-}}$, $B'=2.303\ RT/nF$. The following reactions take place at the electrode: $O_2(gas) \rightleftarrows 2\ O_{(Pt)} \rightleftarrows 2\ O^{2-}_{(Pt)} \rightleftarrows 2\ O^{2-}_{(melt)}$. The first process depends on the O_2 pressure in the gaseous phase, the second on the electrode surface, the third on the activity of the oxygen ions in the melt. The potential of

The behavior of a platinum... S/076/61/035/007/015/019
B127/B208

the platinum electrode is determined by $\pi = A - B \log a_{O^{2-}} + B' \log p'_{O_2}$.

There are 3 figures and 6 references: 3 Soviet-bloc and 3 non Soviet-bloc. The most recent references to English-language publications read as follows: Ref. 2: S. N. Flengas et. al.: Canad. J. Chem. 35, [illegible], [illegible]; Ref. 4: R. K. Edwards et. al.: J. Phys. Chem., 61, 255, 1957.

ASSOCIATION: Khar'kovskiy inzhenerno-ekonomicheskiy institut (Khar'kov Engineering and Economical Institute)

SUBMITTED: September 5, 1959

Card 3/3

PETROV, S.N. (Moskva)

Great thinker and champion of the happiness of people; the 150th birthday anniversary of A.I.Hertzen. Priroda 51 no.4:80-82 Ap '62. (MIRA 15:4)

(Hertzen, Aleksandr Ivanovich, 1812-1870)

ZHEGALIN, I.K.; PUSTYGIN, A.A., glav. agronom; SPODENYUK, N.I.; BYKOV, N.I.; REDIN, P.N., glav. agronom; LOGVIN, N.F., Geroy Sotsialisticheskogo Truda; GUSEV, I.D.; PETROV, S.N.; VLASOV, A.N., glav. zootekhnik; SHEREMET, L.D., glav. bukhgalter; SKANDROV, N.V., glav. inzh.; SHUMILIN, V.S., glav. inzh.; CHERNORUBASHKIN, N.A., kombayner; DRYABO, N.Ye.; ZABNEV, V.F., redaktor; SHIROKOV, B.G.; SHEPELEV, M.A.; LEONOVA, T.S.; SAYTANIDI, L.D., tekhn. red.

[Hundred million poods of grain from Stalingrad Province] 100 millionov pudov stalingradskogo khleba. Moskva, Izd-vo M-va sel'.khoz. RSFSR, 1960. 133 p. (MIRA 13:9)

1. Pervyy sekretar' Stalingradskogo oblastnogo komiteta Kommunisticheskoy partii Sovetskogo Soyuza (for Zhegalin). 2. Oblastnoye upravleniye sel'skogo khozyaystva Stalingradskoy oblasti (for Pustygin). 3. Nekhayevskiy rayonnyy komitet Kommunisticheskoy partii Sovetskogo Soyuza (for Spodenyuk). 4. Nachal'nik Kotel'nikovskoy rayonnoy sel'skokhozyaystvennoy inspektsii, Krayniy Yugo-vostok(for Bykov). 5. Kolkhoz "Deminskiy" Novo-Annenskogo rayona, Stalingradskoy oblasti (for Redin). 6. Predsedatel' kolkhoza "Zavety Il'icha" Kalininskogo rayona (for Logvin). 7. Nachal'nik Novo-Annenskoy rayonnoy sel skokhozyaystvennoy inspektsii (for Gusev). 8. Direktor sovkhoza imeni Frunze Serafimovicheskogo rayona Stalingradskoy oblasti (for Petrov). 9. Stalingradskoye oblastnoye upravleniye sel'skogo khozyaystva (for Vlasov). 10. Sovkhoz "Dinamo" Nekhayevskogo rayona Stalingradskoy oblasti (for Sheremet).

(Continued on next card)

ZHEGALIN,I.K.— (continued) Card 2.

11. Oblastnoye upravleniye sel'skogo khozyaystva Stalingradskoy oblasti (for Skakunov). 12. Sovkhoz "Verkhne-Buzinovskiy" Stalingradskoy oblasti (for Shumilin). 13. Otdeleniye No.6 sovkhoza "Serebryakovskiy" Mikhaylovskogo rayona Stalingradskoy oblasti (for Chernorubashkin). 14. Zven'yevoy kolkhoza imeni Lenina Zhirnovskogo rayona Stalingradskoy oblasti (for Dryabo). 15. Danilovskaya rayonnaya gazeta "Kolkhoznoye znamya" Stalingradskoy oblasti (for Zabnev). 16. Zamestitel' predsedatelya oblastnogo ispolnitel'nogo komiteta Stalingradskoy oblasti (for Shirokov).

(Volgograd Province—Grain)

LAPIN, V.B., starshiy nauchnyy sotrudnik; PETROV, S.N.

Interuniversity conferences on sciences and technology.
Elek. i tepl. tiaga 5 no.8:44-45 Ag '61. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta Ministerstva putey soobshcheniya (for Lapin).

(Electric traction--Congresses)

PETROV, S. N.
YU. K. YUREV, DAN 72, 523-5, 1950

PETROVA, S.O.; KOMECVA, A.I.; [illegible], I.A.

Study of the conditions for glutamic acid decarboxylase extraction from the acetone powders of brain tissue. Vest. LGU 19 no.15:14[illegible]-144 '64. (MIRA 17:[illegible])

PETROV, S.P.

LEPESHINSKAYA, O.B., professor; USIYEVICH, M.A., professor; ASRATYAN, E.A., professor; SMIRNOV, A.I., professor; FILIPPOVICH, S.I., doktor meditsinskikh nauk; VOLOKHOV, A.A., professor; FILIMONOV, I.N., professor; SNYAKIN, P.G., professor; CHERNIGOVSKIY, V.N., professor; SPERANSKIY, A.D., akademik; DOLIN, A.O., doktor meditsinskikh nauk; KOTLYAREVSKIY, L.I., professor; NEGOVSKIY, V.A., professor; KASATKIN, N.I., professor; STEL'CHUK, I.V., professor; YEGOROV, B.G., professor; BAKULEV, A.N., professor; SMIRNOV, L.I., professor; USPENSKIY, V.N., redaktor; PETROV, S.P., redaktor.

[Teachings of I.P.Pavlov in theoretical and practical medicine] Uchenie I.P.Pavlova v teoreticheskoi i prakticheskoi meditsine. Vol.2. Moskva, Izd-vo Ministerstvo zdravookhraneniia SSSR, 1953. 611 p. (MLRA 7:3)

1. Deystvitel'nyy chlen AMN SSSR (for Lepeshinskaya, Chernigovskiy and Bakulev). 2. Chlen-korrespondent Akademii nauk SSSR (for Asratyan). 3. Chlen-korrespondent AMN SSSR (for Smirnov, Filimonov, Yegorov and L.I.Smirnov). 4. Moscow. TSentral'nyy institut usovershenstvovaniya vrachey.
(Pavlov, Ivan Petrovich, 1849-1936) (Nervous system) (Physiology)

PETROV, Sergey Pavlovich; SAVIN, M.V., redaktor

[Penza; a brief historical sketch] Penza; kratkii istoricheskii ocherk. Pod red. M.V.Savina. [Penza] Penzenskoe kn-vo, 1955. 203 p. (MLRA 9:7)

(Penza--Description)

A

Strelets, V. M., and Patsov, S. P. MULLITE LADLES
Ogneupory, 6 [5] 1222-25 (1938).—Ladles composed of 90% grog and 10% Chasov-Yar clay showed excellent characteristics. They are fired at 1340°; porosity is 18 to 20%, mechanical strength is 330 to 440 kg./sq. cm., and deformation under load takes place at 1420° to 1440°. Some improvement may be obtained by firing these ladles to 1400°.

PETROV, S. F., electrical worker.

Manufacturing and assembling of collectors for electric machinery. Leningrad, Gos. energ. izd-vo, 1933. (Mic 53-477) Microfilm copy.

Microfilm TJ-4

1/

CA

Electroplating sheet material on one side B. P. Lagovskii and S. P. Petrov. Russ. 34,252, Jan. 31, 1934. The material is fastened to an endless cathode belt, which moves under horizontal anodes; the fasteners are attached intermittently to a plank of a prismatic shape which can be moved with respect to the cathode.

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

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FUKS, I.I.; PETROV, S.P.; RAVIKOVICH, P.I.

Utilizing production potentialities. Leg.prom 14 no.5:14-17 My '54. (MIRA 7:6)

1. Glavnyy inzhener zavoda 1 Maya (for Fuks)
(Machine-tool industry)

PETROV, Sp.

Long-distance television reception in Kazanluk. Radio i televiziia 12 no.8:237 '63.

KRINITSKIY, Ya.M., dotsent; PETROV, S.P.

Dental caries in children with osteoarticular tuberculosis. Stomatologiia 40 no.3:26-28 My-Je '61. (MIRA 14:12)

1. Iz Vurnarskogo respublikanskogo kostno-tuberkuleznogo detskogo sanatoriya (glavnyy vrach D.L.Filippov).
(TEETH--DISEASES) (BONES--TUBERCULOSIS)

BASMANOV, V.A.; BOROVIK, I.P.; GUSEV, S.G.; DOKUCHAYEV, M.M.; KUKUNOV, I.M.; PETROV, S.P.; DORONICHEVA, L.A., nauchnyy red.; FEDOROVA, T.N., red.izd-va; GILENSON, P.G., tekhn.red.; RUDAKOVA, N.I., tekhn.red.

[Opencast mining and blasting operations] Otkrytye gornye i vzryvnye raboty. Pod red. I.M.Kukunova. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1959. 335 p. (MIRA 13:4)

(Strip mining) (Blasting)

LEPORSKIY, V.V., inzh.; PETROV, S.S., inzh.; PRESNYAKOV, V.M., inzh.; KAZANTSEV, I.G., prof.

Mass production of semi-killed steel for the manufacture of mine supports [with summary in English]. Stal' 18 no.8:702-706 Ag '58. (MIRA 11:8)

1.Zavod "Azovstal" i Zhdanovskiy metallurgicheskiy institut.
(Steel--Metallurgy) (Rolling (Metalwork))

PETROV, Sergey Sergeyevich,; KORCHUNOV, N.G., retsenzent,; AMALITSKIY, V.M., red.; OSOKINA, A.M., red. izd-va,; SHITS, V.P., tekhn. red.

[Planning railroads for transporting lumber; calculations] Proektirovanie lesovoznykh zheleznykh dorog; raschetnaia chast'. Moskva, Goslesbumizdat, 1958. 201 p. (MIRA 11:11)
(Railroad engineering)
(Lumber--Transportation)

ACC NR: AP6020200 SOURCE CODE: UR/0056/66/050/006/1472/1477

AUTHOR: Belyayeva, A. I.; Yeremenko, V. V.; Makhaylov, N. N.; Pavlov, V. S.; Petrov, S. V.

ORG: Physicotechnical Institute of Low Temperatures, Academy of Sciences, Ukrainian SSR (Fiziko-tekhnicheskiy institut nizkikh temperatur Akademii nauk Ukrainskoy SSR); Institute of Physical Problems, Academy of Sciences, SSSR (Institut fizicheskikh problem Akademii nauk SSSR)

TITLE: Magnon and phonon excitation during light absorption in antiferromagnetic NiF_2

SOURCE: Zh Eksper i teor fiz, v. 50, no. 6, 1966, 1472-1477

TOPIC TAGS: magnon, phonon, magnon excitation, phonon excitation, light absorption, nickel fluoride, antiferromagnetic material, NICKEL COMPOUND, FLUORIDE, ABSORPTION SPECTRUM, ELECTRON TRANSITION, LIGHT EXCITATION

ABSTRACT: The structure of the $^3A_{2g} \rightarrow {}^1T_{1g}$ transition in the absorption spectrum of antiferromagnetic nickel fluoride at temperatures between 4.2 and 77K has been analyzed on the basis of experimental data on its vibrational frequencies. It has been shown that band $\nu_I = 20,622$ cm^{-1} and band $\nu_{II} = 20,717$ cm^{-1} are due to electron-magnon transitions with the formation of one and two magnons, respectively, with maximum frequencies. The maximum frequency of the magnon $\nu_m = 100$ cm^{-1}. The magnon

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ACC NR: AP6020200

nature of band ν_1 has been confirmed by an analysis of its shape, temperature dependence of spectral position, and half-width. Orig. art. has: 5 figures, 1 formula, and 1 table. [Based on authors' abstract] [NT]

SUB CODE: 20/ SUBM DATE: 13Jan66/ ORIG REF: 002/ OTH REF: 005

Card 2/2 mcr

AL'TSHULER, V.A., inzh. [illegible]
S.Ya., inzh.

Three-stage [illegible]
Elek. sta. 35 [illegible]

PETROV, T

[illegible]

[illegible] buxa [illegible]
prumyshlennost'," [illegible] 138 p. [illegible]

PETROV, V.I.

[Clinical and radiological diagnosis of intestinal obstruction; method of investigation and symptomatology as an aid to the practicing radiologist] Kliniko-rentgenologicheskaia diagnostika kishechnoi neprokhodimosti; metodika issledovaniia i simptomatika, v pomoshch' prakticheskomu vrachu-rentgenologu. Moskva, TSentr.tip. MO SSSR im. K.E.Voroshilova, 1957. 135 p. (MIRA 13:7)

(INTESTINES--OBSTRUCTIONS) (INTESTINES--RADIOGRAPHY)

USOV, S.V., prof. (Leningrad); PAVLOV, G.M., kand. tekhn. nauk (Leningrad); KANTAN, V.V., inzh. (Leningrad); PETROVA, S.S., inzh. (Leningrad); STEPANOV, B.N., inzh. (Leningrad)

Solution of a problem on optimum load distribution using the ANRAN-1V computer. Elektrichestvo no.2:24-27 F '64. (MIRA 17:3)

[illegible]

AUTHORS: Leporskiy, V.V., [illegible], Preskyskiy, V.A., Engineers, Kazantsev, I.G., Professor

TITLE: Mass Production of Semi-Killed Steel for Manufacturing Mine Supports (Massovoye proizvodstvo poluspokoynoy stali dlya shakhtnogo krepleniya)

PERIODICAL: Stal', 1958, Nr 8, pp 702 - 706 + 1 plate (USSR)

ABSTRACT: Experience gained in the large-scale production of semi-killed steel for rolling profiles for the manufacture of mine supports is discussed. For a long time, a killed steel, St5, was smelted for the purpose (GOST 380-50). In order to increase the yield of rolled products in 1957, the above steel was replaced by a semi-killed steel of the following composition: C 0.28-0.37%, Si - traces, Mn 0.70-1.10%, S $\leqslant$0.055, P $\leqslant$0.050. Smelting of the steel was carried out in 350-ton open-hearth furnaces with basic roofs fired with a mixture of coke-oven and blast-furnace gas. The proportion of hot metal 70-75%. Oxygen additions to flame and to the bath were used during smelting. The deoxidation of metal is done in the furnace with 3.5 - 4.0 t of blast-furnace ferromanganese so as to obtain 0.8-1.0% of manganese in the finished metal. Final deoxidation is done in the ladle with an average of

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Mass Production of Semi-killed Steel for Manufacturing Mine Supports

20 g/t of aluminium. The total duration of the heat 11 - 13 hours. Changes in the composition of metal and slag in the course of the heat are shown in Figure 1. Steel is bottom-poured in 7-ton ingots. Rolling of ingots is carried out in the same way as for rimming steel. Crop heads do not exceed 5%. The influence of carbon and manganese content on the mechanical properties of steel was investigated by the statistical analysis of data for 518 heats. The results are shown in Table 2 and Figure 2. Conclusions: 1) the possibility of replacing St5 steel by semi-killed steel not containing silicon but about 1% of manganese was established. 2) Smelting and teeming of this steel is simple and similar to that of rimming steel 3) The most economical method of deoxidation of the steel is by an addition of blast-furnace ferrosilicon to the furnace and partially into the ladle with an addition to the ladle of aluminium (30 g/t). Ferrosilicon is not used. 4) Heating and rolling conditions for the steel are the same as for rimming steel. 5) By replacing killed steel by the semi-killed steel, the coefficient of the consumption of metal decreased from 1.257 to 1.146,

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Mass Production of Semi-killed Steel for Manufacturing Mine Supports

equivalent to the economy of 111 kg/t of ingots. 6) The quality of the surface of ingots, blooms and finished products from semi-killed steel is quite satisfactory. 7) Mechanical properties of mine supports correspond to requirements of standards for killed steel, St5 (GOST 380-50). There are 2 tables, 2 figures and 4 references, 2 of which are Soviet and 2 English.

ASSOCIATIONS: Zavod "Azovstal'" ("Azovstal" Works) and Zhdanovskiy metallurgicheskiy institut (Zhdanov Metallurgical Institute)

Card3/3

1 Steel--Production 2. Steel--Applications 3. Underground structures--Materials

PETROV, S.S.

PETROV, S.S. "The use of lumber carrying equipment on lumber railroads" sbornik nauch. trudov (Ural'skiy lesotekhn. in-t) Moscow-Leningrad 1948 -p[illegible]-111
SO: U-3201 10 April 53, (Letopis 'Zhurnal 'nykh Statey No. 11, 1949

PETROV, S. S.

All-Union Institute of Animal Husbandry, "An account of the meeting of the Scientific Council of the All-Union Institute of Animal Husbandry on the 19th and 20th of August, 1948, devoted to a summary of the meeting of the All-Union Academy of Agricultural Science imeni V. I. Lenin, according to the report of academician T. D. Lysenko "On the position of biological science" and on the measures in line with introduction of the Michurin tendency in zootechnical science (Reports of I. M. Kuznetsov, S. S. Petrov, and V. M. Yudin, discussions in line with the report and resolutions of soviet science), Vestnik zhivotnovodstva, 1948, Issue 6, p. 3-102

SO U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949)

LEPORSKIY, V.V., inzh.; PETROV, S.S., inzh.; BUL'SKIY, M.T., inzh. [deceased]; ALIMOV, A.G., inzh.; BELOGOLOVSKIY, M.Sh., inzh.; TARASOVA, L.P., inzh.; KALASHNIKOV, A.G., inzh.

Production of medium-carbon, capped steel. Stal' 23 no.8:696-699 Ag '63. (MIRA 16:9)

1. Metallurgicheskiy zavod "Azovstal'."
(Steel--Metallurgy)

PETROV, S.S.

DOC TECH SCI

Dissertation: "Investigation of the Synchronous Operations of Certain Basic Elements of Timber-Hauling Railroad Transport."

27 December 49
Moscow Order of the Labor Red Banner Engineering Construction Inst imeni V.V. Kuybyshev.

SO Vechernyaya Moskva
Sum 71

PETROV, S.S.

Ca

12

Experimental plant for the concentration of the sulfur ore from Chokur-Koyash. S. S. Petrov. *Inst. Mekhanicheskoi Obrabotki Poleznykh Iskopaemykh Mekhanobr (Inst. Mech. Treatment Ores). Repts. on Concen. of Non-Metallic Ores* 1930, Pt. 1, 114-23. The material treated in the above plant contains an av. of 10.5% elementary S. The sepn. is effected by flotation, with recirculation, and the use of pine oil and kerosene. The extn. amts. to about 75%.

A. A. Boehtlingk

PETROV, S.S.

12

Experimental concentration plant for treating the graphite ore from the Alibor deposit of the trust "Mineralnoe Sair'e" in Moscow. S. S. Petrov. *Inst. Mekhanobr. (Inst. Mech. Treatment Ores). Repts. on Concn. of Non-Metallic Ores* 1930, Pt. 1, 124-37.—By grinding and sieving the ore the larger part of mineral admixts. were sepd. The graphite was then concd. by flotation with kerosene. The operations and the plant are described in detail. A. A. Boehtlingk

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

PETROV, S. S.

"System 44 i Bootis," Astron. Zhur., 1[illegible], No [illegible], 1940.
(Submitted Jan 1940, Leningrad)

Report U-1513, 23 Oct 1951

BULGARIA

PETROV, Docent St., BOZAROV, P., Colonels of Medical Service, NIKOLOV, M., Captain of the Medical Service; Chair of Military Field Therapy (VPT - Head Col. Prof. A. Maleev), Higher Military Medical Institute

"Treatment of Acute Pneumonia with Broad-Spectrum Antibiotics"

Sofia, Voenno Meditsinski Sbornik, Vol [illegible] No 6, Dec 66, pp 30-35

Abstract: In clinical studies carried out on 404 patients, the therapeutic effect in acute pneumonias of broad-spectrum antibiotics (biomycin, hydroxytetracycline, and erythran) was compared with that of penicillin applied alone or in combination with sulfonamides. It was established that application of biomycin or hydroxytetracycline reduced the course of treatment on the average by two days as compared with penicillin. Furthermore, a change of the antibiotic because of ineffectiveness was required in a lesser number of cases when treatment was carried out with biomycin or hydroxytetracycline. The therapeutic effect of erythran was not inferior in any respect to that of penicillin or

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L 36403-66 EWT(m)/T/EWP(t)/ETI IJP(c) JW/JD/HW

ACC NR: AP5018775 SOURCE CODE: UR/0070/66/011/003/0443/0447

AUTHOR: Mikhaylov, N. N.; Petrov, S. V.

ORG: Institute of Physical Problems, AN SSSR (Institut fizicheskikh problem AN SSSR)

TITLE: Growing single crystals of MnF_2 and CoF_2

SOURCE: Kristallografiya, v. 11, no. 3, 1966, 443-447

TOPIC TAGS: manganese, cobalt, single crystal, magnetic property, single crystal growing

ABSTRACT: An apparatus is described and methods are presented for the growing of MnF_2 and CoF_2 single crystals. Details of the apparatus were presented along with a schematic drawing. The MnF_2 and CoF_2 raw materials were prepared by reacting 40% hydrofluoric acid with the corresponding carbonates in a platinum dish, processing in a vacuum extractor over P_2O_5 and further treating in an atmosphere of dry HF at 850°C for 6 hours. The detailed preparation was different for each fluoride as was the single crystal preparation. For MnF_2 (with a melting point of 1100°C) 0.2 atm of HF was used in the single crystal furnace; the temperature of the conical platinum crucible was dropped to 970°C in the null-gradient part of the furnace; further cooling was done at 100°/hr and when the temperature reached 50°C, the furnace was flushed with argon and the single crystal of MnF_2 removed. For CoF_2 the furnace was maintained at

UDC: 548.5

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L 36403-66

ACC NR: AP6018775

1200°C. Two forms of impurities were noticed in MnF_2 single crystals: a change in color, indicating a lattice change in impurity levels, and a white zonal structure appearing at the top part of the crystal. The color change was related to the change in oxide content and the formation of a solid solution. Temperature distributions in the crucible were analyzed for different growth rates. Some crystals of CoF_2 also exhibited the zonal structure but the brownish coloring was difficult to find. The dimensions of the crystals depended on the charge and varied from 0.5 to 4 cm in height; the weight of some crystals reached 8 g. Orig. art. has: 2 figures.

SUB CODE: 20,14/ SUBM DATE: 20Apr65/ ORIG REF: 003/ OTH REF: 006

Card 2/2 mlp

L 1563-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACCESSION NR: AP5019215 44,55 UR/0056/65/049/001/0047/0053

AUTHOR: Belyayeva, A. I.; Yeremenko, V. V.; Mikhaylov, N. N.; Petrov, S. V. 44,55 44,55 44,55 59 B

TITLE: Light absorption spectra for Mn^{2+}, Co^{2+}, Ni^{2+}, and Ho^{3+} ions in antiferromagnetic fluoride crystals

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 47-53

TOPIC TAGS: manganese alloy, holmium, transition element, light absorption, absorption spectrum, antiferromagnetic material 21,44,55

ABSTRACT: This is claimed to be the first attempt to alloy MnF_2 single crystals with holmium, and also to grow fluorides containing two different transition metal ions, Mn^{2+} and Co^{2+} or Mn^{2+} and Ni^{2+}. The absorption spectra of these crystals were investigated from 4.2 to 100K, and their characteristics near the magnetic ordering temperature of the solvent crystal are discussed. The single crystals of the pure transition-metal fluorides were obtained by a procedure described elsewhere (Kristallografiya, in press). Some of the difficulties and special techniques involved in the growing of mixed single crystals are discussed. An analysis of the optical absorption spectra indicates that the added ions enter the MnF_2 lattice. The results also show that the antiferromagnetic transition of the solvent crystal is ac-

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L 1563-66

ACCESSION NR: AP5019215

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companied by an anomalous shift of the optical absorption bands of the added Mn^{2+} and Co^{2+} towards the shorter waves, together with a pronounced narrowing which is of the same order as for the band of pure MnF_2 and CoF_2 crystals. The absorption lines of Ho ions are not affected by the antiferromagnetic transition of MnF_2. "We thank P. L. Kapitsa for his interest, A. S. Borovik-Romanov for a discussion of the results, and V. A. Timofeyev for providing the $Ho_3Al_5O_{12}$ single crystals." Orig. art has: 5 figures and 2 tables.

ASSOCIATION: Institut fizicheskikh problem Akademii nauk SSSR (Institute of Physics Problems, Academy of Sciences, SSSR); Fiziko-tekhnicheskiy institut nizkikh temperatur Akademii nauk Ukrainskoy SSR (Physicotechnical Institute of Low Temperatures, Academy of Sciences, UkrSSR)

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AUTHOR: Eremenko, V. V.; Matyushkin, E. V.; Petrov, S. V.

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TITLE: Study of energy transfer from 3d to 4f electrons in antiferromagnetic crystals of manganese fluoride doped with europium 3 ions

SOURCE: Physica status solidi, v. 18, no. 2, 1966, 683-686

TOPIC TAGS: crystal, luminescence, electron energy, doped crystal, energy transfer, manganese fluoride, europium, ion, antiferromagnetic material, manganese compound, fluoride

ABSTRACT: In order to determine the effect of magnetic ordering of the spins of excited Mn^{2+} ions on the efficiency of the energy transfer from 3d electrons of Mn^{2+} to 4f electrons of Eu^{3+}, the spectrum and luminescence intensity of the antiferromagnetic crystals $MnF_2:Eu^{3+}$ are investigated experimentally for temperatures between 20 and 90K. This range includes the magnetic ordering temperature $T_N(\approx 68K)$. At the temperature $T_H(\approx 0.5T_N)$, corresponding to the

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spin ordering of the excited Mn^{2+} ions, the luminescence intensity due to these ions shows a sudden increase while the luminescence intensity due to the Eu^{3+} ions suffers a sudden decrease. This indicates that an anomalous change occurs in the transfer of energy between the Mn^{2+} and Eu^{3+} ions due to the condensation of the local magnetic vibrations of the optically excited Mn^{2+} ions. Orig. art. has: 3 figures. [Authors' abstract] [DW]

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